REMARKS

The above Amendments and these Remarks are in reply to the Office Action mailed May 15, 2006.

Currently, claims 1-57 are pending. Claims 25 and 36 are amended based on, e.g., page 23, lines 18-22 of the specification.

Applicants note that it appears that claims 1-24 and 46-57 have been allowed based on page 5, line 2, of the Office Action. The Examiner is respectfully requested to correct the entry on line 5 of Form PTOL-326.

Applicants acknowledge the indication that claims 28-33, 35, 39-43 and 45 contain allowable subject matter.

Claims 25-27, 34, 36-38 and 44 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. patent 6,735,114 to Hamilton et al. Applicants respectfully traverse the rejection. Hamilton et al. are concerned with the use of a dynamic reference cell to account for drift in the threshold voltages of core memory devices due to program/erase cycles and aging (col. 1, lines 44-60). First, an erase configuration operation is performed. This involves pre-programming all charge storing cells, followed by erasing and soft programming (Fig. 5). Second, a general use operation is performed in which a dynamic reference cell is read. If it is blank, this means the core memory cells have not yet been programmed to store data. In this case, the core memory device and the dynamic reference cell can be programmed together (col. 9, lines 46-52). If the dynamic reference cell has been programmed, then it is concluded that the core memory devices have also been programmed, in which case other operations can be performed, such as storing a different set of data than was previously stored (col. 10, lines 34-44).

Applicants' claim 25 sets forth a method for programming non-volatile memory that includes applying initial programming to non-volatile storage elements until at least one non-volatile storage element reaches a target threshold value. The method further includes, responsive to the at least one non-volatile storage element reaching the target threshold value, adjusting programming of at least a subset of non-volatile storage elements that have not reached the target threshold value based on a behavior of the non-volatile storage elements that have not reached the target threshold value. In contrast, Hamilton et al. do not disclose or suggest adjusting programming of at least a subset of

non-volatile storage elements that have not reached a target threshold value responsive to at least one non-volatile storage element reaching the target threshold value. Instead, Hamilton et al. are concerned with programming a core memory device and a dynamic reference cell together starting from a known condition.

Moreover, Hamilton et al. do not disclose or suggest adjusting programming of non-volatile storage elements that have not reached a target threshold value based on behavior of such non-volatile storage elements, and responsive to at least one non-volatile storage element reaching the target threshold value. Regarding the reference by Hamilton et al. to adjusting current loads, this is concerned with using specific circuitry (e.g., resistors) during the application of program voltages to balance program conditions for each charge storing cell that is programmed (col. 11, lines 49-54). The circuitry is always used during the application of program voltages and therefore does not adjust programming of non-volatile storage elements that have not reached a target threshold value responsive to at least one non-volatile storage element reaching the target threshold value.

Accordingly, claims 25 and 36 are clearly patentable over Hamilton et al.

Further, claim 26 and the related claim 37 set forth characterizing non-volatile storage elements that have not reached a target threshold value based on programmability, where a step of adjusting programming of such non-volatile storage elements is based on the step of characterizing. The adjusting of current loads by Hamilton et al. is not relevant here as it does not result in adjusting programming of at least a subset of non-volatile storage elements that have not reached a target threshold value. Hamilton et al. provides the adjusting of current loads for charge storing cells regardless of whether the cells have reached a target threshold value and regardless of a characterizing of such cells.

Accordingly, claims 26 and 37 are clearly patentable over Hamilton et al.

Claim 27 and the related claim 38 set forth characterizing non-volatile storage elements that have not reached a target threshold value based on programmability by comparing their threshold voltages to a predetermined threshold voltage. Regarding col. 7, lines 11-18 of Hamilton et al., this passage is concerned with a read operation of a dynamic reference cell. However, there is no disclosure or suggestion that this read operation is concerned with characterizing non-volatile storage elements that have not reached a target threshold value based on programmability.

Accordingly, claims 27 and 38 are clearly patentable over Hamilton et al.

Based on the above, each of the pending claims is believed to be in condition for immediate allowance. The Examiner is therefore requested to pass this application on to an early issue.

The Examiner's prompt attention to this matter is greatly appreciated. Should further questions remain, the Examiner is invited to contact the undersigned attorney by telephone.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 501826 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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